

BA-21-2 Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration

Coast 2050 Strategy - Regional Ecosystem Strategy #21; Extend and maintain barrier headlands, islands, and shorelines.

Project Location - Region 2; Barataria Basin; Plaquemines Parish; between Pass Chaland and Grand Bayou Pass. Boundaries extend from the Bay Joe Wise Headland northward between the confluence of Bayou Huertes with the Gulf shoreline to Grand Bayou Pass.

Problem - Wetlands, dune, and swale habitats within the project area have undergone substantial loss due to oil and gas activities (e.g., pipeline construction), subsidence, absolute sea-level rise, and marine and wind induced shoreline erosion (e.g., gulfside and bayside). Marine processes acting on the abandoned deltaic headlands rework and redistribute previously deposited sediment. Development of fragmentary islands from breaches in the barrier headland and subsequent inlet/pass formation has resulted from increased tidal prism storage and storm related impacts. The Bay Joe Wise headland has receded and decreased to a critical width that is susceptible to breaching during storms with a return frequency of 8.3 years.

Goals - Prevent breaching of the barrier shoreline by increasing its width and create 226 acres of back-barrier soil elevations conducive to the establishment of marsh vegetation.

Proposed Solution - Create a marsh platform approximately 1,000 feet wide contiguous with the northern side of the Gulf shoreline of Bay Joe Wise. This platform would be created at a maximum initial fill elevation of +2.0 feet NAVD with semi-confined disposal. A cut to fill ratio was assumed to be 1.5 to 1 based on semi-confined construction and the geotechnical analyses by the University of New Orleans and the U.S. Geological Survey. Approximately 10,000 feet of tidal creeks, 4 feet wide, 2 feet deep, with 1:3 slopes would be constructed. Additionally, six, one-acre ponds would be constructed 2 feet deep. The marsh platform would be aerially seeded with Japanese or Browntop millet and then planted with smooth cordgrass and black mangroves on 10-foot centers.

Project Benefits - The project area anticipated to be benefitted is 359 acres, and the project will protect/create approximately 161 acres of barrier island habitat over 20 years.

Project Costs - The total fully funded cost is \$19,001,400 and the fully funded first cost is \$18,676,100.

Risk/Uncertainty and Longevity/Sustainability - There is a moderate degree of risk associated with this project because it depends on landowner cooperation, and pipelines and oyster leases are present. The project should continue providing benefits for more than 20 years after construction because project features are designed to compensate for ongoing shoreline erosion and future storm events.

Sponsoring Agency and Contact Person National Marine Fisheries Service
Patrick Williams, (225)389-0508; patrick.williams@noaa.gov
Rachel Sweeney, (225) 389-0508; rachel.sweeney@noaa.gov



0.3 0 0.3 Miles
 0.3 0 0.3 0.6 0.9 Kilometers



Project area

Data Source:
 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station

LA Department of Natural Resources
 Coastal Restoration Division

Map Date: November 1, 2001
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Image Data:
 1998 Digital Orthophoto Quarter Quads (DOQQS)

CWPPRA PPL11
 Region 2

Grand Bayou to Pass Chaland Island
 Restoration (BA-21-2)